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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------|------------------|
| 10/617,797 | 07/14/2003 | Akio Yamamoto | 500.42943X00 | 4080 |
| 24956 | 7590 | 06/05/2006 | EXAMINER | |
| MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 DIAGONAL ROAD SUITE 370 ALEXANDRIA, VA 22314 | | | CHOW, CHARLES CHIANG | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2618 | |

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/617,797 | Applicant(s) YAMAMOTO ET AL. | |
| | Examiner Charles Chow | Art Unit 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5 and 6 is/are rejected.
- 7) ☒ Claim(s) 2-4, 7-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7/14/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. This office action is for amendment received 4/3/2006.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5, 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Rimini (US 2003/0194,981 A1).

Regarding **claim 1**, Rimini et al. (Rimini) teaches a signal receiving apparatus [Fig. 3, abstract] for converting a received high frequency signal down to a baseband signal for processing [rf to baseband for processing, abstract, 0001],

said apparatus [mobile station receiver 300, Fig. 3] comprising an analog control AGC having a continuously varying gain [the analog continuous AGC 326]; and a step control AGC [digital AGC 344] connected to said analog control AGC [the analog AGC loop 320 is connected to the digital, step, AGC loop 340 via filter 335, Fig. 3, paragraph 0027],

said step control AGC having a gain switched in steps [the multiplier 342 stepping the gain with the digital-gain value from AGC 344, paragraph 0030],

wherein one of said analog control AGC and said step control AGC controls the gain of said baseband signal [the analog AGC loop 320 one of the 320 & 340 controls the analog gain of the baseband at 322, paragraph 0027], and

the other of said analog control AGC and said step control AGC controls the gain of the gain controlled baseband signal [the other, 340, of the 320 & 340 controls the gain of the

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gain controlled baseband signal from the output of VGA 322, by the gain stepping multiplier 342, paragraph 0030; for the CDMA receiver, paragraph 0001; having the complex baseband signals from down conversion at mixer 310, 0028, 0036].

Regarding **claim 5**, Rimini teaches an incoming signal processing method for converting a received high frequency signal down to a baseband signal for processing [abstract, step 515, Fig. 5 & Fig. 3],

said method comprising one of the following steps of controlling the gain of the baseband signal in accordance with the level of the received signal, and continuously controlling the gain of the gain controlled signal in accordance with the level of the received signal [the step 550 to estimate received signal power, level, Fig. 5 paragraph 0031, then followed by the step of "Continue", to rescale the gain in digital AGC in step 535, to perform the gain stepping with the digital-gain value in multiplier 342, paragraph 0030; to control the gain controlled baseband signal from the analog gain controlled AGC in step 525, in accordance with the estimated received signal power level in step 550], and

continuously controlling the gain of the baseband signal in accordance with the level of the received signal [the estimating & continuing step after step 550], and

controlling the gain of the gain controlled signal in steps in accordance with the level of the received signal [the stepping by multiplier 342 to rescale the filter output in digital AGC loop, step 535].

Regarding **claim 6**, Rimini teaches an incoming signal processing method [Fig. 3, Fig. 5] for converting a received high frequency signal down to a baseband signal for processing [the convert to baseband in step 515 for processing baseband],

said method comprising the step of controlling the gain of the baseband signal using one of an analog control AGC 320 having a continuously varying gain [the continuous analog

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gain control from amplifier 322], and a step control AGC having a gain switched in steps [the digital AGC 340 switches the gain in steps of digital-gain value, by multiplier 342, paragraph 30], and

further controlling the gain of the gain controlled signal with the other of said analog control AGC and said step control AGC [the other, 340, of the 320 & 340 controls the gain of the gain controlled baseband signal from the output of VGA 322, by the gain stepping multiplier 342, paragraph 0030; for the CDMA receiver, paragraph 0001; having the complex baseband signals from down conversion at mixer 310, 0028, 0036].

Claims Objection

3. Claims 2-4, 7-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 2, 7, the prior arts fail to teach the controller for controlling the gain of said analog control AGC in accordance with said offset signal substantially at the same timing as or at a timing earlier than a timing at which the gain of said step control AGC is switched. Claims 3-4, 8-9 are objected due to their dependency upon objected claims 2, 7.

Response to Arguments

4. Applicant's arguments filed 4/3/2006 have been fully considered but they are not persuasive.

Regarding applicant's argument, without providing the reason, just Rimini does not teach & none other cited references teach, an analog control AGC having continuously varying gain and a step control AGC having a gain switched in steps as required by claim 1; the no teachings of the steps in claim 5, 6 [page 2 of applicant's amendment 4/3/2006],

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Rimin-'981A1 teaches the analog linear gain value, continuous gain, for the gain control loop in AGC 326, as the continuously varying the gain of an analog control AGC, and digital AGC loop 344 having gain switched in steps by multiplying the gain value at multiplier 350, to step the gain in the digital AGC loop 344, as the gain switched in steps of the step control AGC [paragraph 0031; the linear gain value in abstract, for the continuous gain change]; the analog AGC loop 326 is connected to digital AGC loop 344 via A/D 324 & 335; the digital AGC 344 control the gain of the gain controlled base band signal at multiplier 342.

Applicant's claims 1, 5, 6, does not comprising the limitation for the connection structure of how the analog control AGC is connected to the step control AGC.

Rmini also teaches the steps 525, 535 & other steps in Fig. 5, which are the steps to control the gain of base band signal with the linear continuous gain change in analog AGC loop 326, step 525, and the multiplied gain stepping in digital AGC loop 344, step 535 [Fig. 5 & paragraph 0036-0039; the steps for producing analog gain value in Rimin's claim 1].

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (571) 272-7889. The examiner can normally be reached on 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow *CC*.

May 25, 2006.

Nguyen V.
5-26-2006

NGUYENT.VO
PRIMARY EXAMINER